



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,528	03/15/2004	James E. Owen	SLA1573	1314
50735 7590 11/04/2008 MADSON & AUSTIN 15 WEST SOUTH TEMPLE SUITE 900 SALT LAKE CITY, UT 84101				
EXAMINER				
KIM, CHONG R				
ART UNIT		PAPER NUMBER		
2624				
MAIL DATE		DELIVERY MODE		
11/04/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/800,528

Applicant(s)

OWEN, JAMES E.

Examiner

CHARLES KIM

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4-15, 17-24 and 26-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-15, 17-24 and 26-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment and Arguments

1. Applicant's amendment filed on August 27, 2008 has been entered and made of record.
2. Applicant's arguments have been fully considered, but they are not deemed to be persuasive for at least the following reasons.

Applicant argues that their claimed invention (claims 1, 6, 10, and 14) differs from the prior art because "Overton does not disclose 'identifying...a least common pixel.'" (Response, p. 9). The Examiner disagrees. Overton discloses, as alluded to by Applicant, identifying a black pixel surrounded by two white pixels. Among the group of three pixels, it is clear that the one black pixel is the *least common* pixel. Therefore, contrary to what Applicant contends, Overton discloses identifying a least common pixel, as recited in claims 1, 6, 10, and 14.

Applicant further argues that their claimed invention (claims 1, 6, 10, and 14) is patentable over the prior art because Tsang discloses low-pass Gaussian filtering that would alter or transform the pixels and therefore, fails to disclose that "the one or more pixels copied from the group of pixels to the second bitmap are not altered or transformed such that a new pixel value is not created." (Response, p. 11). The Examiner disagrees. Although Tsang discloses low-pass Gaussian filtering, the low-pass filtering is applied *before* the group of pixels are identified and the unique pixels are copied. Accordingly, any altering or transforming occurs before the claimed identifying step and copying step. Because the pixels have already been filtered by the time the group of pixels are identified, no altering or transforming takes place at any point during the period from when the group of pixels are identified until the unique pixels

are copied. Thus, Applicant's argument that Tsang alters or transforms the pixels that are copied from the group of pixels is unpersuasive.

NOTE: The Examiner would like to point out that the subject matter described in paragraph 50 of the specification does not appear to be taught by either Overton or Tsang. Therefore, amending the independent claims to include this subject matter would appear to overcome the rejections based on the Overton and Tsang references.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 26-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Referring to claims 26, the Applicant's specification is non-enabling with regards to: (1) identifying a most unique pixel or pixels that includes a least common pixel when compared to the group of pixels, as recited in claim 14, and (2) defining the uniqueness of the pixel as being proportional to a difference of a pixel value for the pixel and an average value of a group of surround pixels, as recited in claim 26. On its face, the two techniques for measuring uniqueness appear to be inconsistent with each other. This inconsistency is further evidenced in the specification, which indicates that measuring uniqueness according to the least common pixel in

the group of pixels applies to *monochrome bitmaps*, while measuring uniqueness according to a difference of a pixel value and an average value of a group of surrounding pixels applies to *grayscale bitmaps*. (Specification, par. 49). Hence, it is unclear how one of ordinary skill would apply both measuring techniques concurrently—measuring uniqueness according to a least common pixel in the group of pixels and according to a difference of a pixel value and an average value of a group of surrounding pixels—. Moreover, it is further unclear what type of bitmap (monochrome or grayscale) one of ordinary skill would use in measuring the uniqueness.

A similar rejection also applies to claims 27 and 28.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 26-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 26 is indefinite because it is unclear how the most unique pixel or pixels includes a least common pixel when compared to the group of pixel (as recited in claim 14), and at the same time, the uniqueness of a pixel is proportional to a difference of a pixel value and an average pixel value of a group of surround pixels (as recited in claim 26). A similar rejection applies to claims 27 and 28. Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claim(s) 1, 2, 4-9 is/are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a manufacture or machine), or (2) transform underlying subject matter (such as an article or material) to a different state or thing (Reference the May 15, 2008 memorandum issued by Deputy Commissioner for Patent Examining Policy, John J. Love, titled “Clarification of ‘Processes’ under 35 U.S.C. 101”)¹. The instant claims neither transform underlying subject matter nor positively recite structure associated with another statutory category, and therefore do not define a statutory process.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

¹ See http://www.uspto.gov/web/offices/pac/dapp/opla/precognotice/section_101_05_15_2008.pdf

6. Claims 1, 6, 10, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Overton, U.S. Patent No. 5,838,838 (hereinafter "Overton").

Regarding claim 1, Overton discloses a method for scaling a first bitmap from a first size to a second size, the method comprising:

accessing a first bitmap [col. 3, ll. 45-53];

iterating through the first bitmap and performing the following until no more size reductions are needed to scale the first bitmap to the second size [figures 1-2]:

identifying a group of pixels from the first bitmap, [col. 3, ll. 61-col. 4, l. 15 and step 4 in figure 1];

identifying a unique pixel or unique pixels in the group of pixels, wherein the unique pixel or pixels comprises the most unique pixel or pixels, and wherein the most unique pixel or pixels includes a least common pixel when compared to the group of pixels [col. 3, l. 61-col. 4, l. 15 and step 4 in figure 1. Note that a single black pixel surrounded by two white pixels is construed as the most unique and least common pixel among the group of three pixels.]; and

copying one or more pixels including the unique pixel or the unique pixels from the group of pixels to a second bitmap, wherein the one or more pixels copied from the group of pixels to the second bitmap are not altered or transformed such that a new pixel is not created, and wherein one or more pixels are not copied to the second bitmap and are not the unique pixel or pixels [col. 3, ll. 61-67 and figures 1-2. Note that for the group of pixels that are part of the unique pixels, step 5 deletes selected pixels from the group to achieve a desired horizontal scaling. The remaining undeleted pixels are

subsequently copied from the group of pixels to a second bitmap. As figure 2 illustrates, these copied pixels are not altered or transformed such that a new pixel is not created. In addition, Overton further explains that pixels that are part of the picture (i.e., not unique pixels) are also deleted and therefore, not copied to the second bitmap.].

Regarding claims 6, Overton further discloses that the first bitmap and the second bitmap are different bitmaps, and wherein the second bitmap comprises copies of pixels from the first bitmap that have not been altered or transformed [figures 1-2].

Regarding claim 10, see the rejection of at least claim 1 above. Overton further discloses a computer device configured to execute the method of claim 1 [figure 10].

Regarding claim 14, see the rejection of at least claim 1 above. Overton further discloses a computer readable medium that performs the method of claim 1 [figure 10].

Referring to claim 25, Overton further discloses that the first bitmap is a monochrome bitmap and the most unique pixel is a least common pixel within the group [col. 3, l. 61-col. 4, l. 15 and step 4 in figure 1. As noted above (claim 1), a black pixel surrounded by two white pixels is construed as the most unique pixel in the group of pixels. The Examiner notes that this same black pixel is also considered the least common pixel since it is the only black pixel within the group of three pixels that are analyzed.].

7. Claims 1, 10, 14, 28 are rejected under 35 U.S.C. 102(b) as being anticipated by the article entitled "Encoding of colour images using adaptive decimation and interpolation" by Tsang et al. (hereinafter Tsang).

Regarding claim 1, Tsang discloses a method for scaling a first bitmap from a first size to a second size, the method comprising:

accessing a first bitmap [pp. 51-52 section 2.2];

iterating through the first bitmap and performing the following until no more size reductions are needed to scale the first bitmap to the second size [pp. 51-52 section 2.2]:

identifying a group of pixels from the first bitmap, [pp. 51-52 section 2.2];

identifying a unique pixel or unique pixels in the group of pixels, wherein the unique pixel or pixels comprises the most unique pixel or pixels, and wherein the most unique pixel or pixels includes a least common pixel when compared to the group of pixels [pp. 51-52 section 2.2. Note that the "only pixels at sharp changing points of an intensity curve" are construed as the most unique pixels.]; and

copying one or more pixels including the unique pixel or the unique pixels from the group of pixels to a second bitmap, wherein the one or more pixels copied from the group of pixels to the second bitmap are not altered or transformed such that a new pixel is not created, and wherein one or more pixels are not copied to the second bitmap and are not the unique pixel or pixels [pp. 51-52 section 2.2. Note that only the most unique pixels--pixels at sharp changing points of an intensity curve--are sampled and therefore copied to a second bitmap].

Regarding claim 10, see the rejection of at least claim 1 above. Tsang further discloses a computer device configured to execute the method of claim 1 [section 5].

Regarding claim 14, see the rejection of at least claim 1 above. Tsang further discloses a computer readable medium that performs the method of claim 1 [section 5].

Referring to claim 28, Tsang further discloses that the first bitmap is a color bitmap and a uniqueness of a pixel is based on a comparison between a sum of color components of the pixel and at least one sum of color components of at least one surrounding pixel [p. 52-53, see equation 3 and section 4].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2, 4, 11-13, 15, 19, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Overton and Suzuki et al. U.S. Patent No. 5,754,698 (hereinafter "Suzuki").

Regarding claims 2, 11, and 15, Overton does not explicitly disclose comparing each pixel in the group of pixels to a comparison set in order to identify the unique pixel or pixels. However, this feature was exceedingly well known in the art. For example, Suzuki teaches comparing each pixel in the group of pixels to a comparison set in order to identify the unique pixel or pixels (the "Sub-sampling patterns" are a method of determining which pixels to decimate based on a comparison, Suzuki Figure 15).

It would have been obvious to one of ordinary skill in the art to apply the comparing step of Suzuki to the decimation method of Overton. The reason for doing so would have been to enhance the flexibility of the downscaling process.

Regarding claim 4, Suzuki further teaches that the comparison set is not in the group of pixels (The patterns of Suzuki Figure 15 are not included in the original image).

Regarding claims 12, 19, and 23, Overton further teaches that the first bitmap and the second bitmap are different bitmaps, and wherein the second bitmap comprises copies of pixels from the first bitmap that have not been altered or transformed [figures 1-2].

Regarding claim 13, Overton further teaches saving the second bitmap [figures 1-2]

9. Claims 5, 7-9, 17, 18, 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Overton, Suzuki, and Scott et al., U.S. Patent No. 5,097,518 (hereinafter "Scott").

Regarding claim 5, Overton and Suzuki do not teach that the group of pixels comprises the comparison set.

Scott teaches comparing a group of pixels to an adjacent group of pixels to make decimation decisions (Scott Figure 8 "Next Pixel Position Register" in the "Horizontal Reduction Scaler").

It would have been obvious at the time of invention to one of ordinary skill in the art to use the next pixels to make decimation decisions as taught by Scott in the image scaling method of Overton and Suzuki in order to enhance the flexibility of the downscaling process.

Regarding claims 7 and 20, Overton and Suzuki do not teach that the comparison set is adjacent to the group of pixels.

Scott teaches comparing a group of pixels to an adjacent group of pixels to make decimation decisions (Scott Figure 8 “Next Pixel Position Register” in the “Horizontal Reduction Scaler”).

It would have been obvious at the time of invention to one of ordinary skill in the art to use an adjacent pixel block as taught by Scott to make decimation decisions in the method of Overton and Suzuki in order to enhance the flexibility of the downscaling process.

Regarding claims 8 and 21, Overton, Suzuki, and Scott teach the method wherein the comparison set comprises one pixel (Scott Figure 8 “Next Pixel Position Register” in the “Horizontal Reduction Scaler” operates on single pixels).

Referring to claim 9, see the discussion of claim 24 below.

Regarding claim 17, Overton, Suzuki, and Scott teach a comparison set not in the group of pixels (The patterns of Suzuki Figure 15 are not included in the original image).

Regarding claim 18, Overton, Suzuki do not teach the computer medium wherein the group of pixels comprises the comparison set.

Scott teaches comparing a group of pixels to an adjacent group of pixels to make decimation decisions (Scott Figure 8 “Next Pixel Position Register” in the “Horizontal Reduction Scaler”).

It would have been obvious at the time of invention to one of ordinary skill in the art to use an adjacent pixel block as taught by Scott to make decimation decisions in the method of Overton and Suzuki in order to enhance the flexibility of the downscaling process.

Referring to claim 22, Suzuki further discloses that the comparison set comprises a plurality of pixels [figure 15].

10. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Overton, Suzuki, and Morley et al., U.S. Patent Application Publication No. 2002/0186765 (hereinafter "Morley").

Regarding claim 24, Overton and Suzuki does not explicitly disclose that the first bitmap and second bitmap are the same bitmap for in-place scaling. However, this feature was exceedingly well known in the art. For example, Morley discloses a first bitmap and the second bitmap that are the same bitmap for in-place scaling (Morley Figures 4A-4C show in place decimation).

It would have been obvious to one of ordinary skill in the art to include the teachings of Morley in the method Overton and Suzuki. The reason for doing so would have been to enhance the flexibility of the downscaling process.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Kim whose telephone number is 571-272-7421. The examiner can normally be reached on Mon thru Thurs 8:30am to 6pm and alternating Fri 9:30am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/CHARLES KIM/
Primary Patent Examiner
Art Unit 2624
chongr.kim@uspto.gov

October 31, 2008